

SNOW.

Snow has been reported by the following stations: Lansing, Michigan, 4th; Wytheville, Virginia, 5th, light spitting snow, lasting a few minutes; Milwaukee, 3d; Pike's Peak, 2d, 3d, 4th, 5th, 7th, 8th, 10th, 12th, 13th, 15th; Mount Washington, 2d, 3d, 5th; Burlington, Vermont, 1st, summits of mountains covered with snow; 12th, 20th and 21st, summit of Mount Marcy covered with snow.

HAIL.

Kittyhawk, North Carolina, 28th: Severe hail storm, doing great damage to crops in this locality; hail-stones as large as walnuts.

Laredo, Texas, 8th: Severe hail storm from 6.20 to 7.25 p. m.; all windows of northern exposure were broken; hail-stones of enormous size fell, (some of them weighing one pound) and drifted in places to a depth of six inches. Great damage was done by the breaking of sky-lights in stores, exposing goods to the violence of the storm.

Dubuque, Iowa, 16th: For thirteen minutes, commencing at 2.54 p. m., the largest and most destructive hail-stones fell that were ever seen at this place. The hail-stones measured from one to seventeen inches in circumference; the largest weighing one pound and twelve ounces. Washington park was literally covered with hail-stones as large as lemons, and large basketfuls could be gathered in a few minutes. They exhibited diverse and peculiar formations, some being covered with knobs and icicles half an inch in length; others were surrounded by rings of different colored ice with gravel and blades of grass imbedded within them. The foreman of the Novey Iron Works, of this city, states that in two large hail-stones, melted by him, were found small living frogs. A number of persons were severely cut and bruised by the falling hail-stones. The damage inflicted is estimated at \$5,000. One florist lost 2,387 panes of glass. Hundreds of windows of south and west exposure were broken, including twenty windows of heavy French plate glass. Railroad men report that hail fell at 2 p. m., at McGregor, forty miles northwest. No hail fell on the eastern side of the Mississippi, or at Julien, six miles west of this city.

Cairo, Illinois, 27th: During the violent storm, a description of which will be found elsewhere in the REVIEW under the head of "local storms", considerable large hail fell along the centre of the storm north of this station.

La Crosse, Wisconsin, 27th: Large quantities of hail fell along the track of the tornado (see local storms) of this date.

Omaha, 25th: Hail-stones measuring one-eighth of an inch in diameter fell for twenty-five minutes during storm.

Huron, Dakota, 23d: Storm accompanied by destructive hail.

Helena, Montana, 8th: During storm hail-stones fell measuring one inch in diameter.

West Las Animas, Colorado, 11th: Heavy shower of hail lasting thirty minutes; hail-stones measuring three-eighths of an inch in diameter fell, breaking much window glass.

Morrison, Illinois, 16th: Destructive hail storm reported to have occurred near Lyndon in this state.

Anna, Illinois, 18th: Severe hail storm; hail-stones three-fourths of an inch in diameter, breaking much glass.

Worcester, Massachusetts, 4th: A heavy hail storm occurred a few miles north of this city.

Thornville, Michigan, 8th: Considerable damage done to corn and wheat fields and gardens by hail. The track of the storm was about one mile in width. On the 18th, a hail storm occurred in the township of Goodland, in this state. Several wheat fields were entirely destroyed. Hail-stones fell weighing two ounces.

Protem, Missouri, 11th: Hail storm causing great damage to the wheat crop and fruit. The hail-stones were about two-thirds as large as hen's eggs, and were of irregular shapes.

Freehold, New Jersey, 4th: Destructive hail storm occurred between 9.20 and 10.15 p. m., over a strip of country lying to the east of this place. The path of the storm was about thirty miles in length and half a mile in width. 25th: severe storm

accompanied by hail, consisting mostly of jagged and broken ice; some specimens measuring one and three-eighths inches in length and half an inch in thickness.

Weldon, North Carolina, 4th: During severe storm, hail-stones as large as hen's eggs fell.

Fallsington, Pennsylvania, 25th: Hail storm at 5 p. m., during which the temperature fell 16° in a few minutes; some of the hail-stones were an inch and a half in length and of irregular shapes.

Sydney, Nebraska, 14th: Heavy storm accompanied by hail of remarkable size, destroying much window glass.

Hail storms of less violence have occurred in the various states and territories as follows:

Arizona: Yuma, 18th.

Colorado: Fort Lewis, 12th.

Dakota: Fort Meade, 12th; Bismarck, 12th, 30th; Rapid City, 15th; Fort Hale, 17th; Fort Stevenson, 21st; Wicklow, 24th.

Georgia: Atlanta, 17th; Augusta, 18th; Savannah, 29th.

Illinois: Swanwick, 21st; Rockford, 24th.

Indiana: Saint Meinrad, 26th.

Iowa: Clinton, 16th; Guttenburg, 16th, 24th; Nora Springs, 17th, 21st; Burlington, 18th; Des Moines and Independence, 22d.

Kansas: Yates Centre, 14th, 15th.

Maine: Gardiner, 9th.

Maryland: Baltimore, 19th.

Massachusetts: Worcester, 4th; Boston, 5th.

Michigan: Thornville, 8th; Port Huron, 14th, 18th; Litchfield, 15th.

Missouri: Protem, 2d, 15th.

Montana: New Chicago, 9th; Terry's Landing, 20th, 28th; Fort Shaw, 23d; Forts Custer and Ellis, 28th.

Nebraska: Fremont, 17th; Fort Niobrara, 20th; Genoa, 23d.

Nevada: Winnemucca, 9th; Fort McDermitt, 11th; Carson City, 14th; Pioche, 28th.

New Hampshire: Grafton, 19th.

New Jersey: Freehold, 4th, 25th; Readington, 15th; Cape May, 19th; Paterson, 20th.

New York: North Volney, 2d, 15th; Palermo, 2d; Troy, 4th; Oswego and Rochester, 19th.

Ohio: Cleveland, 4th; Cincinnati, 16th.

Oregon: Portland and Umatilla, 18th.

Pennsylvania: Dyberry, 6th, 17th.

South Carolina: Charleston, 15th.

Tennessee: Memphis, 12th; Chattanooga, 17th; Murfreesboro', 18th; Nashville, 22d; Knoxville, 28th.

Texas: Henrietta, 2d; Laredo, 8th; Eagle Pass, 13th.

Vermont: Lunenburg, 9th.

Washington territory: Dayton and Spangle, 20th.

West Virginia: Morgantown, 19th.

SLEET.

Sleet was reported as follows: On summit of Mount Washington, 2d; Pike's Peak, 1st, 2d, 3d, 7th to 11th, 18th, 19th, 27th.

COTTON REGION REPORTS.

The following table gives the average rainfall, mean of maximum and mean of minimum temperatures, in each of the cotton districts, as shown on chart vi. issued with the April REVIEW.

Meteorological Record for the Cotton Districts for the month of June, 1882.

DISTRICTS.	Average rainfall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans	2.43	90.6	72.5
Savannah	4.97	89.9	70.4
Charleston	4.88	89.9	67.5
Atlanta	3.85	88.6	64.8
Wilmington	1.97	90.0	66.2
Memphis	2.89	90.4	67.0
Galveston	0.80	92.7	70.0
Vicksburg	1.44	91.2	68.5
Montgomery	3.49	91.5	69.4
Augusta	4.08	90.5	67.6
Little Rock	1.38	91.3	64.2
Mobile	2.60	94.8	68.8

Meteorological Record for the Cotton Districts for the month of May, 1882.

DISTRICTS.	Average rain-fall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans.....	5.57	84.4	61.1
Savannah.....	2.59	84.8	60.7
Charleston.....	2.53	81.9	58.1
Atlanta.....	2.39	78.9	56.2
Wilmington.....	2.52	79.0	54.6
Memphis.....	7.58	77.7	56.3
Galveston.....	5.25	83.9	59.9
Vicksburg.....	7.03	81.9	60.8
Montgomery.....	3.02	81.9	58.2
Augusta.....	2.11	82.2	57.8
Little Rock.....	11.04	78.7	53.6
Mobile.....	4.69	83.4	58.3

Meteorological Record for the Cotton Districts for the month of April, 1882.

DISTRICTS.	Average rain-fall in inches.	Mean of the maximum.	Mean of the minimum.
New Orleans.....	5.63	81.9	59.9
Savannah.....	3.73	81.1	60.2
Charleston.....	2.66	77.5	54.5
Atlanta.....	4.49	76.3	54.9
Wilmington.....	3.88	74.2	50.0
Memphis.....	5.29	74.9	54.0
Galveston.....	1.58	82.1	57.9
Vicksburg.....	7.03	78.6	56.8
Montgomery.....	4.82	78.5	57.2
Augusta.....	3.05	78.2	54.7
Little Rock.....	4.74	75.9	51.9
Mobile.....	8.80	79.1	57.3

WINDS.

The prevailing winds at Signal Service stations during the month of June, 1882, are shown on chart ii. by arrows, which fly with the wind. In New England, the middle, and southern states, and from the Ohio valley westward to Colorado, the winds were southerly; in Texas, and at stations on the southern slope, south to southeasterly; in the upper lake region and the extreme northwest, northerly to easterly; in the upper Mississippi valley and in the plateau regions, variable; in the Missouri valley, southeasterly, and on the Pacific coast, northwesterly to southwesterly.

TOTAL MOVEMENTS OF THE AIR.

The following are the largest total movements at Signal Service stations: Mount Washington, 28,235 miles; Pike's Peak, 15,023; Hatteras, 12,410; Kittyhawk, 9,969; San Francisco, 9,739; Macon, North Carolina, 9,610; Indianola, 9,351; Sandusky, 9,342; Concho, 9,339; Galveston, 9,329; Delaware Breakwater, 9,303; New Shoreham, Rhode Island, 8,957; Stockton, Texas, 8,910; Fort Elliott, Texas, 8,749; Cape Henry, Virginia, 8,749; Champaign, Illinois, 8,415; Dodge City, 8,249; Milwaukee, 8,178; Sandy Hook, 8,044. The smallest are: Vicksburg, 1,895; La Mesilla, New Mexico, 1,967; Silver City, New Mexico, 2,360; Lynchburg, 2,447; Roseburg, Oregon, 2,591; Nashville, 2,634; Augusta, Georgia, 2,636; Missoula, Montana, 2,733; Olympia, 2,775; Tucson, 2,791; Fort Smith, Arkansas, 2,965.

HIGH WINDS.

The following high velocities were reported from the summit of Mount Washington: 1st, 84 miles, sw.; 2d, 77, nw.; 9th, 75, nw.; 19th, 92, w.; 20th, 80, nw.; 21st, 80 nw.; 25th and 26th, 95, nw., maximum for the month. On all other days during the month, velocities reached or exceeded fifty miles per hour, with the exception of the following: 4th, 6th, 11th to 14th, 23d and 30th. Stations reporting velocities of fifty miles per hour or over, are as follows: Pike's Peak, 64, w., 17th; Fort Benton, Montana, 64, w., 20th; Yankton, 61, nw., 24th; Saint Louis, 61, n., 17th; Fort Elliott, Texas, 60, ne., 12th; Indianapolis, 60, w., 20th; Dodge City, 56, nw., 30th; North Platte, 53, e., 19th; Fort Custer, 52, w., 28th; West Las Animas, Colorado, 52, se., 19th; Henrietta, Texas, 52, nw., 12th; Nashville, 52 w., 18th; Hatteras, 52, sw., 1st; La Crosse, 50, sw., 24th.

LOCAL STORMS.

There have been in the month of June many tornadoes and severe storms which have resulted in great loss of life and

destruction to property. By far the most disastrous was the tornado which swept through eastern Iowa on the 17th of the month.

The following accounts of storms have been arranged in states and in successive dates as nearly as possible:

Arkansas: Osceola, 17th, a severe wind storm, accompanied by hail, unroofed several houses and totally demolished one. Much damage was done to crops.

Dakota: Wicklow, 24th, a severe storm occurred, accompanied by rain and hail. Considerable injury was done to farm property and crops, the wind reaching a velocity of sixty miles per hour, from the south-southwest. At Forestburg, twenty-five miles northwest of Alexandria, 24th, a severe storm occurred, several buildings were blown down. Yankton, 24th, severe storm, several buildings in the country blown down. The steamer "Tompkins" was blown from her moorings.

Georgia: Atlanta, 17th, severe thunder and rain storm, accompanied by hail; the wind attained a velocity of forty-nine miles per hour. Many trees in the suburbs were blown down. Forsyth, 18th, a violent wind and rain storm occurred west of this place, doing much damage to crops and fences.

Illinois: Geneseo, 17th, during a heavy storm, the spires of two churches were blown down and several buildings were more or less damaged. At Oregon, the storm was equally severe, many barns and out-buildings were blown down by the wind or carried off by the flood. Clinton, 17th, a heavy wind and rain storm passed over DeWitt county, doing a large amount of damage to farm property and crops. The storm passed from nw. to se., and is described as being a whirlwind; in Wilson township it demolished a barn and injured much stock, and the rye crop, which was nearly ready to harvest, was greatly injured and numbers of fruit trees were uprooted. Vandalia, 17th, the storm was accompanied by rain and vivid lightning; much of the wheat crop was blown down and also a considerable amount of timber. The Okaw bottom-lands were submerged and several hundred acres of corn were under water. Carmi, 17th, during a severe wind storm, the opera house was unroofed and several buildings sustained severe damage. Many fruit and shade trees were destroyed. At Lebanon, Salem, and Edwardsville, the storm was more or less severe, some damage was done to wheat, but not so much as in other districts.

Cairo, 17th, 3.10 p. m., the wind suddenly veered from northwest to southwest, when a tornado appeared, which lasted from 3.10 to 3.35 p. m. The storm-cloud advanced from the northwest and was of a dense black color in front, while the northwestern edge of the cloud presented a smooth surface, having a greenish hue. A roaring noise, and a rotating cloud of dust, which enveloped every object in its path, preceded the storm. Several houses were unroofed, including the U. S. custom house, and twenty empty freight cars were derailed, and overthrown by the wind. The track of the storm was from from west to east, passing through Alexander, Pulaski and Massac counties, and was from eight to ten miles wide. In the centre of the track, large hail fell, but none was observed at this station; trains were delayed by the fallen trees across the track, and one man was killed and others were more or less injured. Steamers had their smoke-stacks blown down, others broke adrift and sank, or sustained great damage. The total damage caused by this storm, in southern Illinois, is estimated at \$16,000. Morrison, 24th, a severe storm of thunder, lightning and rain occurred at this place, several buildings were damaged by lightning and many hundreds of fruit trees were destroyed.

Rockford, 24th, a tornado and heavy hail-storm occurred; hail-stones were as large as hen's eggs, and nearly every window in the town was broken. The storm caused great damage to fruit and other crops.

Champaign, 25th, from 2.45 to 4.45 p. m., a severe gale caused much damage, especially in the northwestern part of the city; a large barn was blown down, fruit trees uprooted or broken off, and great damage resulted to corn and other crops.